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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,430	08/17/2001	Bing Chao	EKM-81895	3438
30764	7590	05/05/2004	EXAMINER	
SHEPPARD, MULLIN, RICHTER & HAMPTON LLP			DUONG, THANH P	
333 SOUTH HOPE STREET			ART UNIT	
48TH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90071-1448			1764	

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/932,430	Applicant(s) CHAO ET AL.	
	Examiner Tom P Duong	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-21, 23 and 30-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-21, 23 and 30-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/17/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 13-14, 16-17, and 30-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hocknell et al. (6,440,011) in view of Peterson (6,162,133).

Regarding claims 13-14, 16-18, 21, 23, 30-38, Hocknell discloses a golf club comprising: an opening 54 to receive a shaft 48; a body 44 having striking plate (central region 0.110-0.93 inch, periphery region 0.069-0.061 inch); a crown 62 (Col. 5, lines 15-22) having thickness range of 0.025-0.060 inch; face height of 48 mm; rear section 70 (best understood to be the skirt); and a sole 64 having thickness range of 0.025-0.060 inch; weight members 122 and 123; and a golf club volume ranging from 175-400 cc. Hocknell does not disclose expressly the material properties of the striking face; however Hocknell discloses the face member 60 made of alpha-beta titanium and/or titanium alloy (Col. 6, lines 40-45), which inherently has the same properties as the claimed invention since the materials are the same. Hocknell fails to disclose the maximum thickness of the striking face is less than 2.2 mm and head construction is a unitary body. Peterson teaches a striking plate with design thickness ranging from 1.5-3.0 mm (Col. 4, lines 63-67) and the thickness selection is depended on desire strength,

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configuration, and weight distribution (Col. 5, lines 1-8). Peterson also teaches a unitary, one-piece body 32, which provides the advantage for its uniformed construction, weight distribution, and reduces manufacturing cost (Col. 4, lines 23-48). Thus, it would have been obvious in view of Peterson to one having ordinary skill in the art to provide a golf club head of Hocknell with a thin striking plate and a unitary head construction as taught by Peterson in order to gain the above advantages. With respect to the COR versus its loft angle for a given club head, a higher COR value inherently requires a design with decreased loft angle while a smaller COR value results in a design with increased loft angle. Regarding claim 14, it is conventional in the golf club's art to assemble club head by welding club parts together. Regarding claims 16-17, Official Notice is taken that it is known in the art to thickening the sole portion or add weights to the sole portion to lower the center of gravity and it is inherent to do so here to gain the same benefits. Claims 30-38 recite limitations similar to claims 13-14, and 16-17; thus, claims 30-38 are rejected for the same reasons as applied in claims 13-14, and 16-17, above.

2. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hocknell et al. (6,440,011) in view of Peterson (6,162,133) as applied to claim 13 above, and further in view of Japanese Publication 2001-029518. Regarding claim 15, the Hocknell in view of Peterson fail to disclose the cold forming process of the striking plate. JP '518 teaches 15% or more of the cold working process in club head and such metal forming process increased stress resistance and hardness. (Page 3, Section 0017-0018). Thus, it would have been obvious in view of JP '518 to one having ordinary skill

in the art to fabricate the club head of the prior art using 15% or more of the cold working as taught by JP '518 to gain the above benefits.

3. Claims 18-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hocknell et al. (6,440,011) in view of Peterson (6,162,133) and Rigal et al. (5,547,427) and Japanese Publication 2001-029518. Regarding claims 18 and 20, 23, Hocknell discloses a golf club comprising: an opening 54 to receive a shaft 48; a body 44 having striking plate (central region 0.110-0.93 inch, periphery region 0.069-0.061 inch); a crown 62 (Col. 5, lines 15-22) having thickness range of 0.025-0.060 inch; face height of 48 mm; rear section 70 (best understood to be the skirt); and a sole 64 having thickness range of 0.025-0.060 inch; weight members 122 and 123; and a golf club volume ranging from 175-400 cc. Hocknell does not disclose expressly the material properties of the striking face; however Hocknell discloses the face member 60 made of alpha-beta titanium and/or titanium alloy (Col. 6, lines 40-45), which inherently has the same properties as the claimed invention since the materials are the same. Hocknell fails to disclose the maximum thickness of the striking face is less than 2.2 mm and head construction is a unitary body. Peterson teaches a striking plate with design thickness ranging from 1.5-3.0 mm (Col. 4, lines 63-67) and the thickness selection is depended on desire strength, configuration, and weight distribution (Col. 5, lines 1-8). Peterson also teaches a unitary, one-piece body 32, which provides the advantage for its uniformed construction, weight distribution, and reduces manufacturing cost (Col. 4, lines 23-48). Hocknell fails to disclose a plurality of support tabs disposed about the front opening. Rigal '427 teaches the body is provided with reinforcement tabs (Fig. 3)

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to provide additional support to the head body and face member against deformation from ball impact. Hocknell does not disclose expressly the cold forming method of a striking plate. JP '518 teaches 15% or more of the cold working process in club head and such metal forming process increased stress resistance and hardness. (Page 3, Section 0017-0018). Thus, it would have been obvious in view of Peterson, Regal, and JP '518 to one having ordinary skill in the art to modify the golf club head of Hocknell with a thin striking plate and a unitary head construction as taught by Peterson, supporting tabs as taught by Rigal, and cold forming process of the face plate as taught by JP '518 in order to provide a golf club with uniformed construction, weight distribution, and reduces manufacturing cost; support to the body and face member; and increased stress resistance and hardness. With respect to the COR versus its loft angle for a given club head, a higher COR value inherently requires a design with decreased loft angle while a smaller COR value results in a design with increased loft angle. Regarding claim 19, JP '518 teaches the titanium alloy composition of the claimed invention (Page 2, Section 0006). Regarding claim 21, Hocknell discloses the central and periphery thickness of the striking plate (Col. 5, lines 45-65).

Response to Arguments

Applicant's arguments with respect to claims 18-21 and 23 have been considered but are moot in view of the new ground(s) of rejection.

In response to claims 13-17 and 30-38, Applicant argues that Hocknell discloses a golf club head with four components and Peterson discloses a club head with a one-

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piece body, and it would not be obvious to combine these references. Examiner respectfully disagrees since the only main difference between the Hocknell reference and the Peterson reference is that the golf club of Hocknell has a separate striking face fastened to the face opening along with the rest of the head body parts but fails to disclose a unitary construction. Peterson teaches the importance of having a unitary body, which provides the club head with uniformed construction, weight distribution, and reduce manufacturing cost. Thus, it would have been obvious in view of Peterson to one having ordinary skill in the art to fabricate the club head of prior art with unitary construction to gain the above benefits. Note, it is conventional to manufacture club head body with one-piece construction or formed from plurality of pieces.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TD
May 3, 2004

TD



Glenn Caldarola
Supervisory Patent Examiner
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